AMENDMENTS TO THE CLAIMS

Listing of the Claims

1. (currently amended) A stent for expansion from a first condition in which it can be introduced into a vessel into a second condition in which it holds the vessel in an expanded state, comprising:

a plurality of annular support portions comprising bar elements which are connected in a longitudinal direction of the stent by way of a plurality of connecting bars,

wherein the connecting bars between a first said annular support portion and, in the longitudinal direction, an adjacent second said annular support portion engage in a region of the bar elements of the first annular support portion that projects in the longitudinal direction;

wherein the connecting bars engage a central portion of the second annular support portion with respect to the longitudinal direction;

wherein at least one said annular support portion is formed by bar elements that connect end-to-end such that the bar elements extend in a meander configuration in the peripheral direction of the stent and a turning point in the meander configuration is formed at each connection of the bar elements, and each two bar elements that are adjacent in the peripheral direction of the stent form the limbs of a V-shape, provided that adjacent bar elements that share a common turning point do not converge at any point as the adjacent bar elements extend away from the common turning point, and wherein each said bar element has a direction of curvature which changes in the central region between two turning points when the stent is in the first condition.

Claims 2-4. (cancelled)

5. (previously presented) The stent of claim 1, wherein at least a first said annular support portion and a second said annular support portion in adjacent relationship in the longitudinal direction are each formed by respective bar elements extending in a meander

configuration in a peripheral direction of the stent and the connecting bars between the first said annular support portion and the second said annular support portion

engage near a turning point, adjoining the second said support portion, of the bar element of the first said support portion.

6. (previously presented) The stent of claim 5, wherein the respective connecting bar respectively engages a point that projects furthest in the longitudinal direction, of the bar element of the first said annular support portion.

7. (cancelled)

8. (previously presented) The stent of claim 5, wherein at least the second said annular support portion is formed by bar elements that extend in a meander configuration in the peripheral direction of the stent and the connecting bars engage in the central region of the bar element between the turning points of the bar element, with respect to the longitudinal direction of the stent.

9. (previously presented) The stent of claim 1, wherein the connecting bars are sufficiently long to ensure flexibility of the stent with respect to its longitudinal direction.

10. (previously presented) The stent of claim 1, wherein the connecting bars are designed and arranged to avoid twisting of the stent over its length.

11. (cancelled)

12. (previously presented) The stent of claim 1, wherein the stent expands in a self-induced manner from the first condition into the second condition, such that the stent can be restored to its first condition again.

13. (previously presented) The stent of claim 12, wherein the bar elements and the connecting bars are of such a configuration and arrangement that the stent can be restored to its first condition again.

14. (previously presented) The stent of claim 13, wherein the connecting bars between a first said annular support portion and a second said annular support portion in adjacent relationship in the longitudinal direction engage in the region of the portions, which project in the longitudinal direction, of the bar elements of the first annular support portion when the stent is restored to its first condition.

15. (previously presented) The stent of claim 1, wherein the stent material includes a nickel-titanium shape memory alloy.

16. (previously presented) The stent of claim 15, wherein at body temperature the stent material is in a stress-induced martensitic state in the first condition of the stent and in an austenitic state in the second condition of the stent.

17. (previously presented) The stent of claim 16, wherein the bar elements have a geometry and/or a width of the bar elements varies over the length thereof in such a way that the stresses which occur in the bar elements are below the respective plastic deformation limit of the stent material when the stent material makes the transition in the first condition of the stent from the martensitic state into a stress-induced martensitic state as a result of an increase in temperature.

18. (previously presented) The stent of claim 17, wherein at least one said annular support portion is formed by bar elements which extend in a meander configuration in the peripheral direction of the stent and whose width decreases towards the center between two turning points.

19. (cancelled)

20. (previously presented) The stent of claim 18, wherein at least one said annular support portion is formed by bar elements which extend in a meander configuration in the peripheral direction of the stent and of which at least a center line is in the shape of an elliptical arc segment in the region of the turning points.

Claims 21-43 (cancelled)

44. (previously presented) The stent of claim 5, wherein the connecting bars are sufficiently long to ensure flexibility of the stent with respect to its longitudinal direction.

Claims 45- 63. (cancelled)

64. (previously presented) The stent of claim 10, wherein the stent expands in a self-induced manner from the first condition into the second condition, such that the stent can be restored to its first condition again.

Claims 65-66 (cancelled)

67. (previously presented) The stent of claim 5, wherein the stent expands in a self-induced manner from the first condition into the second condition, such that the stent can be restored to its first condition again.

Claims 68-69 (cancelled)

70. (previously presented) The stent of claim 67, wherein the bar elements and the connecting bars are of such a configuration and arrangement that the stent can be restored to its first condition again.

71. (previously presented) The stent of claim 13, wherein the connecting bars between a first said annular support portion and a second said annular support portion in adjacent relationship in the longitudinal direction engage in the region of the portions,

which project in the longitudinal direction, of the bar elements of the first annular support portion.

Claim 72-73 (cancelled)

74. (previously presented) The stent of claim 67, wherein the connecting bars between a first said annular support portion and a second said annular support portion in adjacent relationship in the longitudinal direction engage in the region of the portions, which project in the longitudinal direction, of the bar elements of the first annular support portion.

75. (previously presented) The stent of claim 70, wherein the connecting bars between a first said annular support portion and a second said annular support portion in adjacent relationship in the longitudinal direction engage in the region of the portions, which project in the longitudinal direction, of the bar elements of the first annular support portion.

76. (previously presented) The stent of claim 12, wherein the connecting bars between a first said annular support portion and a second said annular support portion in adjacent relationship in the longitudinal direction engage in the region of the portions, which project in the longitudinal direction, of the bar elements of the first annular support portion.

77. (previously presented) The stent of claim 12, wherein the stent material includes a nickel-titanium shape memory alloy.

78. (previously presented) The stent of claim 77, wherein at body temperature the stent material is in a stress-induced martensitic state in the first condition of the stent and in an austenitic state in the second condition of the stent.

Claims 79-80 (cancelled)

81. (previously presented) The stent of claim 67, wherein the stent material includes a shape memory alloy, in particular a nickel-titanium alloy.

82. (previously presented) The stent of claim 81, wherein at body temperature the stent material is in a stress-induced martensitic state in the first condition of the stent and in an austenitic state in the second condition of the stent.

Claims 83-84 (cancelled)

85. (previously presented) The stent of claim 78, wherein the bar elements have a geometry and/or a width of the bar elements varies over the length thereof in such a way that the stresses which occur in the bar elements are below the respective plastic deformation limit of the stent material when the stent material makes the transition in the first condition of the stent from the martensitic state into a stress-induced martensitic state as a result of an increase in temperature.

86. (previously presented) The stent of claim 85, wherein at least one said annular support portion is formed by bar elements which extend in a meander configuration in the peripheral direction of the stent and whose width decreases towards the center between two turning points.

Claims 87-88 (cancelled)

89. (previously presented) The stent of claim 82, wherein the bar elements have a geometry and/or a width of the bar elements varies over the length thereof in such a way that the stresses which occur in the bar elements are below the respective plastic deformation limit of the stent material when the stent material makes the transition in the

first condition of the stent from the martensitic state into a stress-induced martensitic state as a result of an increase in temperature.

90. (previously presented) The stent of claim 89, wherein at least one said annular support portion is formed by bar elements which extend in a meander configuration in the peripheral direction of the stent and whose width decreases towards the center between two turning points.

Claims 91-93 (cancelled)

94. (previously presented) The stent of claim 78, wherein at least one said annular support portion is formed by bar elements which extend in a meander configuration in the peripheral direction of the stent and of which at least a center line is in the shape of an elliptical arc segment in the region of the turning points.

Claims 95-99 (cancelled)

100. (previously presented) The stent of claim 82, wherein at least one said annular support portion is formed by bar elements which extend in a meander configuration in the peripheral direction of the stent and of which at least a center line is in the shape of an elliptical arc segment in the region of the turning points.

Claims 101-104 (cancelled)

105. (currently amended) The stent of claim 10, wherein:

the connecting bars are arranged such that all or part of a first connecting bar and all or part of a second, longitudinally adjacent connecting bar are on alternating sides of a line extending along the longitudinal direction of the stent , such that that expansion of the stent imparts a first change in angle on the points of engagement of the first

connecting bar with the bar elements and a compensating opposite second change in angle on the points of engagement of the second connecting bar with the bar ~~element~~ elements, in a plane tangential to a peripheral surface of the stent.

106. (previously presented) The stent of claim 105, wherein the stent expands in a self-induced manner from the first condition into the second condition, such that the stent can be restored to its first condition again.

107. (previously presented) The stent of claim 106, wherein the bar elements and the connecting bars are of such a configuration and arrangement that the stent can be restored to its first condition again.

108. (previously presented) The stent of claim 107, wherein the connecting bars between a first said annular support portion and a second said annular support portion in adjacent relationship in the longitudinal direction engage in the region of the portions, which project in the longitudinal direction, of the bar elements of the first annular support portion.

109. (previously presented) The stent of claim 108, wherein the stent material includes a nickel-titanium shape memory alloy.

110. (previously presented) The stent of claim 109, wherein at body temperature the stent material is in a stress-induced martensitic state in the first condition of the stent and in an austenitic state in the second condition of the stent.

111. (previously presented) The stent of claim 110, wherein the bar elements have a geometry and/or a width of the bar elements varies over the length thereof in such a way that the stresses which occur in the bar elements are below the respective plastic deformation limit of the stent material when the stent material makes the transition in the first condition of the stent from the martensitic state into a stress-induced martensitic state as a result of an increase in temperature.

112. (previously presented) The stent of claim 111, wherein at least one said annular support portion is formed by bar elements which extend in a meander configuration in the peripheral direction of the stent and whose width decreases towards the center between two turning points.

113. (previously presented) The stent of claim 112, wherein at least one said annular support portion is formed by bar elements which extend in a meander configuration in the peripheral direction of the stent and of which at least a center line is in the shape of an elliptical arc segment in the region of the turning points.

114. (currently amended) A stent, adapted to expand from a first condition, in which it can be introduced into a vessel, to a second condition, in which it holds the vessel in an expanded state, the stent comprising:

a plurality of annular support portions comprising a plurality of bar elements, wherein each two adjoining bar elements in the peripheral direction of the stent converge to form a meander configuration in the peripheral direction of the stent, and wherein each point of connection between bar elements is a turning point in the meander configuration, forming a series of V-shapes that alternate in orientation between a first longitudinal direction and a second opposed longitudinal direction in the first condition of the stent, provided that adjacent bar elements that share a common turning point do not converge at any point as the adjacent bar elements extend away from the common turning point, and wherein each bar element has a direction of curvature which changes between two turning points when the stent is in the first condition; and

a plurality of connecting bars, wherein the connecting bars engage a first said annular support portion and, in the first longitudinal direction, an adjacent second said annular support portion, wherein a connecting ~~bars~~ bar engages the first annular support portion at each turning point of each V-shape that projects in the first longitudinal direction, and wherein the connecting bars engage a central portion of the second annular support portion with respect to the first longitudinal direction.

115. (previously presented) The stent of claim 114, wherein the stent expands in a self-induced manner from the first condition into the second condition, such that the stent can be restored to its first condition again.

116. (previously presented) The stent of claim 115, wherein the bar elements and the connecting bars are of such a configuration and arrangement that the stent can be reversibly expanded from the first condition to the second condition.

117. (previously presented) The stent of claim 114, wherein the stent material includes a nickel-titanium shape memory alloy.

118. (previously presented) The stent of claim 114, wherein at body temperature the stent material is in a stress-induced martensitic state in the first condition of the stent and in an austenitic state in the second condition of the stent.

119. (previously presented) The stent of claim 114, wherein at least one said annular support portion is formed by bar elements which extend in a meander configuration in the peripheral direction of the stent and whose width decreases towards the center between two turning points.

120. (previously presented) The stent of claim 114, wherein at least one said annular support portion is formed by bar elements which extend in a meander configuration in the peripheral direction of the stent and of which at least a center line is in the shape of an elliptical arc segment in the region of the turning points.

121. (currently amended) The stent of claim 114, wherein the connecting bars are arranged such that all or part of a first connecting bar and all or part of a second, longitudinally adjacent connecting bar are on alternating sides of a line extending ~~along the~~ parallel to a longitudinal ~~direction~~ axis of the stent, such that that expansion of the stent imparts a first change in angle on the points of engagement of the first connecting bar with the bar elements and a compensating opposite second change in angle on the

points of engagement of the second connecting bar with the bar element, in a plane tangential to a peripheral surface of the stent.

122. (currently amended) The stent of claim 121, wherein all of the connecting bars engaging the turning points of the first annular support portion have an identical orientation to the first connecting bar in relation to ~~a~~ the line extending ~~along~~ parallel to the longitudinal ~~direction~~ axis of the stent, and all of the connecting bars engaging the turning points of the second annular support portion have an identical orientation to the second connecting bar in relation to ~~a~~ the line extending ~~along~~ parallel to the longitudinal ~~direction~~ axis of the stent.